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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,443	05/08/2001	Andrew D. Jackson	US010246	4164

24737 7590 04/24/2003

PHILIPS ELECTRONICS NORTH AMERICAN CORP
580 WHITE PLAINS RD
TARRYTOWN, NY 10591

EXAMINER

HARPER, HOLLY R

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 04/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,443

Applicant(s)

JACKSON ET AL.

Examiner

Holly R. Harper

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 17-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 12-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shippee et al. (USPN 6,326,721 B1) in view of Gutta et al. (USPN 3,757,159).

In regard to claim 1, the Shippee reference discloses a ceramic metal halide discharge lamp (Column 1, Lines 11-30) with a first and second discharge electrode feedthrough means (Figure 1, Elements 38 and 39) and first and second current conductors connected to the feedthrough means (Figure 1, Elements 62 and 66). The Shippee reference does not specify the use of a metal coil wound around the discharge vessel. The Gutta reference, in the analogous art of discharge lamps, teaches the use of a metal coil to provide additional support and lower the necessary startup voltage (Column 3, Lines 7-12 and Figure 1). The metal used to make the metal coil is not specified, but it is well known in the art to use Tungsten or Molybdenum metals for high pressure lamps because they have very high melting points. The metal coil has a plurality of coils and is attached to the lamp by electrode feedthroughs on both ends. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate a metal coil around the discharge vessel, as taught by Gutta, to provide additional support and lower the necessary startup voltage.

All the limitations of claim 1 are discussed in the rejected by Shippee in view of Gutta above. Neither of the references discloses specific characteristics of metal halide lamps. It is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. Thus, the functional limitation of specific characteristics of a metal halide lamp is taught by Shippee in view of Gutta under the principles of functional inherency. For example, the Verderber article teaches that metal halide lamps are available from 35W to 3500W and have lamp efficacies from 55 lm/W to 100 lm/W.

In regard to claim 2, the Shippee reference is silent to the use of a ballast with the metal hydride lamp. The Gutta reference teaches that a ballast is a conventional power source for lamps (Column 1, Lines 43-48). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate a ballast, as taught by Gutta, with a discharge lamp.

3. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shippee et al. (USPN 6,326,721 B1) in view of Gibson et al. (USPN 6,172,462 B1) in further view of Gutta (USPN 3,757,159).

In regard to claims 3-4 and 6-8, the Shippee reference discloses a ceramic metal halide discharge lamp (Column 1, Lines 11-30) with a first and second discharge electrode feedthrough

means (Figure 1, Elements 38 and 39) and first and second current conductors connected to the feedthrough means (Figure 1, Elements 62 and 66). The Shippee reference does not disclose the specifics of the arc tube portion of the lamp. The Gibson reference, in the analogous art of metal halide lamps, teaches an arc tube that is a cylinder shape with end walls and end plugs (Figure 3 and Column 1, Line 67). There is a pair of niobium lead-ins connected to the electrodes, a central portion of cermet, a metal part, and a tip with tungsten windings (Column 2, Lines 44-58). It is well known in the art, to use tungsten and molybdenum metals in the interior of high pressure lamps because of their very high melting points. It is well known to have tungsten electrodes and niobium electric current conductors. It is well known in the art to have cermet containing aluminum and molybdenum. For example reference Izumiya (USPN 4,742,269). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to use the specified components of an arc tube, as taught by Gibson, in a metal halide lamp.

The Shippee reference does not specify the use of a metal coil wound around the discharge vessel. The Gutta reference, in the analogous art of discharge lamps, teaches the use of a metal coil to provide additional support and lower the necessary startup voltage (Column 3, Lines 7-12 and Figure 1). The metal used to make the metal coil is not specified, but it is well known in the art to use Tungsten or Molybdenum metals for high pressure lamps because they have very high melting points. The metal coil has a plurality of coils and is attached to the lamp by electrode feedthroughs on both ends and wraps around a portion of the end plugs. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills

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in the art to incorporate a metal coil around the discharge vessel, as taught by Gutta, to provide additional support and lower the necessary startup voltage.

All the limitations of claim 3 are discussed in the rejected by Shippee in view of Gibson in further view of Gutta above. None of the references disclose the specific characteristics of metal halide lamps. It is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. Thus, the functional limitation of specific characteristics of a metal halide lamp is taught by Shippee in view of Gibson in further view of Gutta under the principles of functional inherency. For example, the Verderber article teaches that metal halide lamps are available from 35W to 3500W.

In regard to claim 5, the Shippee reference is silent on the ionizable filling in the discharge space. The Gibson reference teaches that the ionizable filling in the discharge space contains an inert gas, a metal halide, and mercury (Column 2, Lines 56-59). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate mercury, a metal halide, and an inert gas into the discharge space, as taught by Gibson.

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4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shippee et al. (USPN 6,326,721 B1) in view of Gibson et al. (USPN 6,172,462 B1) in further view of Gutta (USPN 3,757,159) in further view of Roberts (USPN 4,983,889).

All the limitations of claim 5 are rejected above. None of the references mention the aspect ratio of the arc tube. The Roberts reference teaches that metal halide discharge lamps can have an aspect ratio from .5 to 5 (Column 4, Lines 44-46). Adjusting the length and diameter of the arc tube helps to control the power and luminance. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to have a metal halide discharge lamp with corresponding length and diameter to have an aspect ratio in the range of .5 to 5, as taught by Roberts to provide the desired power and luminance.

5. Claim 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shippee et al. (USPN 6,326,721 B1) in view of Gibson et al. (USPN 6,172,462 B1) in further view of Gutta (USPN 3,757,159) in further view of Izumiya et al. (USPN 4,742,269).

In regard to claim 10, all the limitations of claims 6 and 7 are rejected above. The references are silent to an electrode tip extension and the specific composition of the cermet. However, it is noted that the inclusion of such electrode tip extension is not shown to solve any problems or yield any unexpected results that are not within the scope of the discharge lamp described above. Accordingly, the inclusion of an electrode tip extension is considered to be an obvious matter of design choice. Numerous discharge lamps show an electrode extensions, including Ikeuchi et al. (USPN 6,465,940 B1). The above references disclose the use of molybdenum and aluminum oxide in cermet, but not the exact weight percent. The Izumiya reference teaches that the cermet can be made with 8-50% molybdenum and the rest comprising

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aluminum oxide. The cermet containing less than 8% molybdenum is high in electrical resistance and cermet containing more than 50% molybdenum cannot be a sufficiently densified body (Column 7, Lines 20-28). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to use cermet containing molybdenum and aluminum oxide to the specified values, as taught by Izumiya, to have the most efficient cermet. In regard to claim 11, Shappee in view of Gibson discloses a metal halide lamp and the arc tube specifications. The Gibson reference discloses that a lamp can have an internal diameter of 6.8 mm and an internal length of 26 mm (Column 3, Lines 29-31). It is noted that the specification of other measurements is not shown to solve any problems or yield any unexpected results that are not within the scope of the discharge lamp described by Shappee in view of Gibson. Accordingly, the specification of such measurements is considered to be an obvious matter of design choice.

Allowable Subject Matter

6. Claims 12-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 12, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 12, and specifically comprising the limitation of specific percent weight compositions for the metal halide material.

Regarding claims 13-16, claims 13-16 are allowable for the reasons given in claim 12 because of their dependency status from claim 12.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lake et al. (USPN 3,876,895) discloses some of the salts in the metal halide material.

Lambrechts et al. (USPN 6,501,220 B1) discloses some of the salts in the metal halide material.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (703) 305-7908. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Holly Harper
Patent Examiner



NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800